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EXAMINER

LEE, SIN J

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 06/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/828,075

Applicant(s)

HORNE ET AL.

Examiner

Sin J Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9,11-17 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,11,12,15-17 and 22-28 is/are rejected.
- 7) ☒ Claim(s) 4, 13, 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. Claim 4 is objected to because of the following informalities: On line 3, "triarylmethene" needs to be changed to --- triarylmethane ---. Appropriate correction is required.
2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, applicants recite "wherein the *polymeric substance* is a phenolic resin selected from the group consisting of a novolac resin, a resole resin, a novolac/resole resin mixture and polyhydroxystyrene, and a copolymer of hydroxystyrene". However, the polymeric substance has to have pendent colorant groups according to present claim 1, and those resins listed in claim 3 do not include any pendent colorant groups. For the purpose of examining claim 3 on the merit, the Examiner assumed that applicants meant to recite "wherein the *polymer comprising hydroxyl groups* is a phenolic resin . . . and a copolymer of hydroxystyrene" because present claim 2, from which claim 3 depends, states that the polymeric substance of claim 1 is derived from a polymer comprising hydroxyl groups, able to react with a colorant compound or moiety, to produce the polymeric substance having pendent colorant groups.

Appropriate correction is required.

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3. Claims 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 27 and 28, applicants recite "[t]he *method of claim 23*". However, present claim 23 recites "[a] *printing form* prepared from the lithographic printing form precursor of claim 1." For the purpose of examining claims 27 and 28 on the merit, the Examiner assumed that applicants meant to say "[t]he *method of claim 22*".

4. In claims 25, applicants recite "[t]he *method of claim 17*, further comprising the step of reacting a polymer comprising hydroxyl groups with a colorant compound or moiety, to produce the polymeric substance having pendent colorant groups." In claim 27, applicants recite "[t]he *method of claim 23*, further comprising the step of reacting a polymer comprising hydroxyl groups with a colorant compound or moiety, to produce the polymeric substance having pendent colorant groups."

The Examiner is interpreting present claims 25 and 27 in such a way that the step of reacting a polymer comprising hydroxyl groups with a colorant compound or moiety, to produce the polymeric substance having pendent colorant groups *occurs before the step (b)* of claim 17 and claim 22 because in the step (b) of claims 17 and 22, a composition comprising the polymeric substance having pendent colorant groups is being applied.

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5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Claims 1-6, 9, 11, 12, 17, and 22-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Nguyen (6,124,425).

Nguyen teaches (col.3, lines 18-57, col.4, lines 1-57, col.5, lines 1-27) a thermally reactive near infrared absorption polymer having a *near infrared absorption chromophoric moiety* (their R2 group in Formula II to V) comprising derivatives of indole, benzindole, benzothiazole, naphthothiazole, benzoxazole, naphthoxazole, benzselenazole, or naphthoselenazole, which can be represented by their Formula VI. Nguyen teaches (col.1, lines 12-15) that his polymer is particularly useful in the preparation of *lithographic printing plates*. In Example 15, Nguyen specifically synthesizes a near infrared absorption polymer ADS819PO which chemical structure is shown in col.24 by reacting *Novolak resin* (a polymer comprising

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hydroxyl groups) and 2-[2-[2-chloro-3-[2-(1,3-dihydro-1,1,3-trimethyl-2H-benz[e]indol-2-ylidene)ethylidene]-1-cyclohexene-1-yl]ethenyl]-1,3,3-trimethyl-1H-benz[e]indolium 4-methylbenzenesulfonate (a colorant compound). Therefore, the prior art teaches present polymeric substance comprising colorant groups. Also, the polymer shown in Example 15 has  $\text{H}_3\text{C}-\text{C}_6\text{H}_4-\text{SO}_3^-$  group which is the presently claimed reversible insolubilizer group -O-SO<sub>2</sub>-tolyl. Nguyen furthermore teaches (see col.25, lines 43-50) that a coating solution made of their polymer is spin coated onto an electrolytically grained aluminum substrate, which was treated with polyvinyl phosphoric acid, and then dried. In present specification, pg.1, [0003], applicants state that typically, an aluminum sheet for lithographic printing form precursors, after being subjected to a graining treatment (which may be an *electrograining treatment*), is anodized using *phosphoric acid* electrolyte and then a post anodic treatment is carried out using a silicate or a phosphate composition. Since Nguyen teaches an aluminum substrate which is electrolytically grained and treated with polyvinyl phosphoric acid (and there is no mention of carrying out post anodic treatment, for example, by using a silicate or a phosphate composition), the prior art teaches present aluminum support which is anodized but not subsequently subjected to a chemical treatment step. Also, Nguyen's polymer solution does not contain any free colorant dye. Therefore, the prior art teaches present inventions of claims 1-3, 5, 6, 17, and 24-26.

With respect to present claim 4, although the polymer made in Example 15 contains the chromophoric moiety having two naphthyl rings, in col.5, lines 1-16, Nguyen teaches that Z1 and Z2 in their Formula VI can represent *either phenyl or naphthyl ring*. Therefore, one of ordinary

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skill in the art would immediately envisage the polymer of Example 15 to have the chromophoric moiety having two phenyl rings instead of the naphthyl rings. Therefore, the prior art teaches present colorant group derived from the dye structure shown at the end of claim 4, and thus the prior art teaches present invention of claim 4.

With respect to present claim 9, in [0035]-[0036], present specification states that preferably the reversible insolubilizer groups are also colorant groups, and it furthermore states that preferred reversible insolubilizer groups are -O-SO<sub>2</sub>-tolyl, -O-dansyl, -O-SO<sub>2</sub>-thienyl, -O-SO<sub>2</sub>-naphthyl and -O-CO-Ph. Based on these statements, it is the Examiner's position that since Nguyen's polymer of Example 15 contains the present -O-SO<sub>2</sub>-tolyl group, the prior art's -O-SO<sub>2</sub>-tolyl group is the presently claimed reversible insolubilizer group which is also colorant group as presently claimed in claim 9.

With respect to present claims 11, and 12, since Nguyen's polymer of Example 15 contains *polymethine dye* structure in it, the prior art teaches present polymeric substance comprising colorant groups, which also act as infra-red absorbing groups and which also act as reversible insolubilizer groups. Therefore, the prior art teaches present inventions of claims 11 and 12.

Nguyen teaches that after the polymer-coating solution is spin coated onto the aluminum substrate and dried, the plate is imaged with a Creo Trendsetter image setter (a laser imaging device) and then the exposed area of the imaged plate is developed with a positive aqueous

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developer to produce a high resolution printing plate. Therefore, the prior art teaches present invention of claims 22, 23, 27, and 28.

7. Claims 7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (6,124,425) in view of Suezawa et al (6,074,797) (with Kamir et al (6,447,895 B1) and Boulos et al (6,170,292 B1) which are cited to prove that iron oxide and manganese oxide are infrared absorbing materials).

With respect to present claims 15 and 16, Nguyen's thermally reactive near infrared absorption polymer coating does not contain any pigment. Suezawa et al teaches (col.6, lines 26-27, col.8, lines 21-34, lines 44-52) that when a light-heat converting material such as *polymethine dye* is used, one can further improve the adding effect of such light-heat converting material by adding additives such as a black pigment, green pigment, metal oxide such as iron oxide or manganese oxide, metal hydroxide, metal sulfate, and metal powder of bismuth, tin or tellurium. Since there are not that many examples to choose from, it is the Examiner's position that it would have been obvious to one of ordinary skill in the art to add *iron oxide* or *manganese oxide* into Nguyen's thermally reactive near infrared absorption polymer coating with a reasonable expectation of further improving the effect of Nguyen's infrared absorption chromophoric moiety which has the polymethine dye structure as taught by Suezawa. Therefore, Nguyen in view of Suezawa would render obvious present inventions of claims 15 and 16.

With respect to present claim 7, as evidenced by Kamir et al, col.3, lines 23-26 and Boulos et al, col.2, lines 10-15, both iron oxide and manganese oxide are infrared absorbing

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materials, and thus Nguyen in view of Suezawa would also render obvious present invention of claim 7.

8. Claims 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Nguyen does not teach nor suggest the use of a free compound which acts as a reversible insolubilizer compound as presently claimed in claim 13.

#### *Response to Arguments*

9. Applicants argue that the Nguyen specification has erroneously substituted the name "polyvinyl phosphoric acid" for "polyvinyl phosphonic acid," which is commonly used in the art of lithographic printing for post-anodic treatment and that Nguyen's treatment with polyvinyl phosphoric acid is not an anodization step. However, there is no evidence provided by applicants for supporting their arguments. As pointed out above, present specification states that typically an aluminum sheet for lithographic printing form precursors, after being subjected to a graining treatment, is anodized using *phosphoric acid* electrolyte and then a post anodic treatment is carried out using a silicate or a phosphate composition. Since Nguyen teaches an aluminum substrate which is electrolytically grained and treated with polyvinyl phosphoric acid and since there is no mention of carrying out post anodic treatment in the prior art, it is still the Examiner's

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position that the prior art teaches present aluminum support which is anodized but not subsequently subjected to a chemical treatment step.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is (703) 305-0504. The examiner can normally be reached on Monday-Friday from 8:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Janet Baxter, can be reached on (703) 308-2303. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 for after final responses or (703) 872-9310 for before final responses.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.

S. J. Lee

S. Lee  
June 18, 2003

  
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